

Claims

- [c1] What is claimed is:
1. A method for controlling a transmission interface between a computer system and an external device to manage data transmission, the computer system comprising:
 - a host for controlling operation of the computer system; and
 - a first connecting port for outputting and receiving a data compatible with a first format;

the external device comprising:

 - a second connecting port for receiving the data compatible with the first format transmitted from the first connecting port and transmitting the data compatible with the first format to the first connecting port;
 - a bridge circuit comprising a first port and a second port, the first port electrically connected to the second connecting port, the bridge circuit transforming the data compatible with the first format received by the first port into corresponding data compatible with a second format and outputting the data compatible with the second format through the second port, the bridge circuit transforming the data compatible with the second format received by the second port into the corresponding data compatible with the first format and outputting the data compatible with the first format through the first port;
 - a driver circuit for controlling operation of the external device according to the data compatible with the second format outputted from the second port of the bridge circuit; and
 - a memory electrically connected to the driver circuit for storing transmission interface data, the host of the computer system transmitting the data compatible with the first format to the bridge circuit of the external device according to a specification defined by the transmission interface data;

the method comprising:

 - transmitting a control signal compatible with the second format from the bridge circuit to the driver circuit so that the driver circuit transmits the transmission interface data stored in the memory to the bridge circuit; and
 - transmitting the transmission interface data compatible with the first format from the bridge circuit to the host so that the host transmits data compatible

with the first format to the bridge circuit according to the transmission interface data.

- [c2] 2.The method of claim 1 wherein the memory is a non-volatile memory.
- [c3] 3.The method of claim 1 wherein the memory further stores device configuration data, and the host controls the external device according to the device configuration data.
- [c4] 4.The method of claim 3 wherein the device configuration data comprises a reserved data space, and the transmission interface data is stored within the reserved data space.
- [c5] 5.The method of claim 1 wherein the external device is a portable data storage device.
- [c6] 6.The method of claim 5 wherein the external device is a hard disk drive.
- [c7] 7.The method of claim 5 wherein the external device is an IC smart card.
- [c8] 8.The method of claim 5 wherein the external device is an optical drive.
- [c9] 9.The method of claim 1 wherein the first format conforms to a universal serial bus (USB) specification.
- [c10] 10.The method of claim 1 wherein the second format conforms to an AT attachment (ATA) specification.
- [c11] 11.The method of claim 1 wherein the second format conforms to an ATA packet interface (ATAPI) specification.
- [c12] 12.A transmission interface controller used for managing data transmission between an external device and a computer system, the transmission interface controller comprising:
 - a bridge circuit which has a first port and a second port, the bridge circuit transforming a data compatible with a first format received by the first port into corresponding data compatible with a second format and outputting the data compatible with the second format through the second port, the bridge circuit

transforming the data compatible with the second format received by the second port into the corresponding data compatible with the first format and outputting the data compatible with the first format through the first port; the computer system comprising:

a host for controlling operation of the computer system; and

a first connecting port for outputting and receiving the data compatible with the first format;

the external device comprising:

a second connecting port electrically connected to the first connecting port of the computer system and the first port of the bridge circuit for receiving the data compatible with the first format transmitted from the first connecting port and transmitting the data compatible with the first format to the first connecting port;

a driver circuit electrically connected to the second port of the bridge circuit for controlling operation of the external device according to the data compatible with the second format outputted from the second port of the bridge circuit;

and

a memory electrically connected to the driver circuit for storing transmission interface data, the host of the computer system transmitting the data compatible with the first format to the bridge circuit of the external device according to a specification defined by the transmission interface data; wherein the bridge circuit transmits a control signal compatible with the first format to the driver circuit so that the driver circuit transmits the transmission interface data stored in the memory to the bridge circuit; and

the bridge circuit transmits the retrieved transmission interface data compatible with the first format to the host so that the host transmits data compatible with the first format to the bridge circuit according to the transmission interface data.

[c13] 13.The method of claim 12 wherein the memory is a non-volatile memory.

[c14] 14.The transmission interface controller of claim 12 wherein the memory stores device configuration data, and the host controls the external device according to the device configuration data.

- [c15] 15.The transmission interface controller of claim 14 wherein the device configuration data comprises a reserved data space, and the transmission interface data is stored within the reserved data space.
- [c16] 16.The transmission interface controller of claim 12 wherein the external device is a portable data storage device.
- [c17] 17.The transmission interface controller of claim 16 wherein the external device is a hard disk drive.
- [c18] 18.The transmission interface controller of claim 16 wherein the external device is an IC smart card.
- [c19] 19.The transmission interface controller of claim 16 wherein the external device is an optical drive.
- [c20] 20.The transmission interface controller of claim 12 wherein the first format conforms to a universal serial bus (USB) specification.
- [c21] 21.The transmission interface controller of claim 12 wherein the second format conforms to an AT attachment (ATA) specification.
- [c22] 22.The transmission interface controller of claim 12 wherein the second format conforms to an ATA packet interface (ATAPI) specification.